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(54) **Corkscrew**

(57) An improved corkscrew having a main body or lever (1), whose intermediate section has a shaft (2) on which a helicoidal thread (3) swings and in whose end

there is another shaft (7) by which a second ribbed arm (8) swings, having on its two sides two grooves (12) opposite to each other, along which the two extensions of the shaft (7) run, with several locking points.

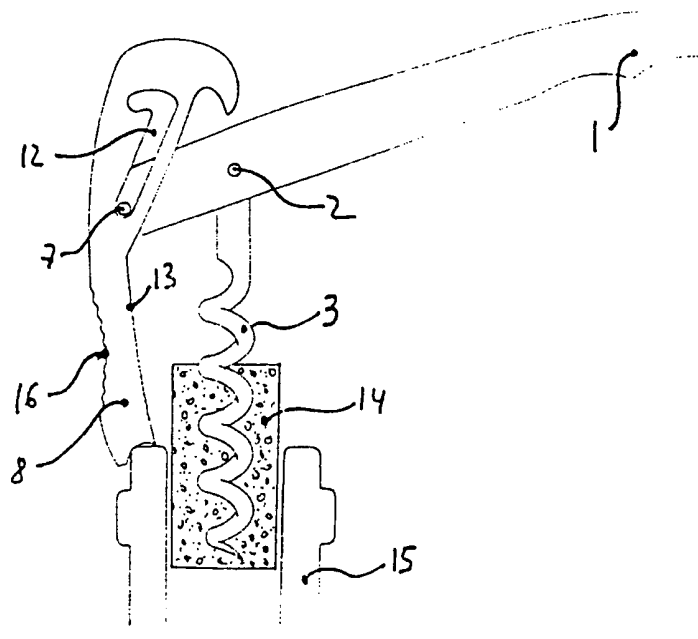


FIG.-5

Description**OBJECT OF THE INVENTION**

[0001] The present invention refers to an improved corkscrew of the type used to remove cylindrical corks from glass bottles containing liquid and especially wine.

BACKGROUND OF THE INVENTION

[0002] Corkscrews are well known, especially for being designed to remove cylindrical cork stoppers from bottles, basically consisting of a puller, whose pointed end penetrates the surface of the stopper to be removed and after manually penetrating the latter by applying pressure and rotating, it has an articulated extensible arm device, with a point of support for the bottle neck, after which significant physical force has to be applied to create the corresponding leverage to remove the bottle stopper in question, almost always leaving a piece of cork inside the bottle, hence requiring an extra effort to complete the operation.

[0003] This second pulling operation, causes the bottle to shake due to the resulting back motion of said action, which may provoke undesired spillage of the bottle contents.

DESCRIPTION OF THE INVENTION

[0004] The improved corkscrew proposed by the invention has been conceived and structured to solve the aforementioned problems, since the cylindrical stopper is removed from the bottle continuously and without unnecessary force since it incorporates a device acting as a ratchet, permitting removal, always applying the same pressure or force, such that the stopper is extracted smoothly and without abrupt movements, hence eliminating any possibility of shaking or spilling the contents of the bottle.

[0005] The pressure applied to the lever divides the run thereof into several stages, each one of which represents a degree of opening thereof, significantly less than the pressure that should be applied when executing a single run, since the lever rises and descends twice in each direction, equally distributing the total force.

[0006] The most important characteristic of this improved corkscrew is that it is provided with a ribbed, foldable arm of the main body or lever, which at its end has a crimp which should lean over the upper edge of the bottle mouth with the stopper to be removed, such that the shaft on which the lever swings is located at the beginning in the more or less intermediate part of the arm and as the levering action is applied to remove the stopper, a spring located for such a purpose makes the shaft, in the manner of a ratchet, situate itself at different heights with respect to the support arm.

[0007] This system permits the removal of the stopper in question with the minimum effort and without the

former rubbing with the lower part of the extractor arm.

DESCRIPTION OF THE DRAWINGS

[0008] To complete the description being made and to better understand the features of the invention, a set of drawings is attached to this specification where the following is shown to illustrate the former without limiting its extension.

[0009] Figure 1 - shows a view of the improved corkscrew in the folded position.

[0010] Figure 2, shows a section of the improved corkscrew in the unfolded position.

[0011] Figure 3, shows the improved corkscrew in the unfolded position.

[0012] Figure 4, shows a perspective view in which the foldable arm may be seen, with its end leaning on the upper part of the bottle mouth and the lever significantly lowered to be immediately raised.

[0013] Figure 5, shows a perspective view of the improved corkscrew once the lever has been raised the first time.

[0014] Figure 6, shows a perspective view of the improved corkscrew with the shaft leaning on the second ratchet point and with the extracting lever in a downwards position prepared for lifting.

[0015] Figure 7, shows a perspective view of the improved corkscrew once the lever has been raised.

PREFERRED EMBODIMENT OF THE INVENTION

[0016] In the light of these figures it may be seen how the structure of this improved corkscrew is formed as from a first ergonomic arm or lever (1) having in its middle part a shaft (2) from which a helicoidal thread or puller (3) is fastened at its square end (4) and whose other end finishes in the shape of a punch (5). Inside this main body or lever (1), a spring (6) is interlocked which embeds the helicoidal thread (3) in its square part (4).

[0017] At one of its ends, this main body (1) has a shaft (7) by means of which another ribbed arm swings in its inner part (8), the former having a spring (9) which is fastened at one of its ends in the intermediate section (10) of this ribbed arm (8) and in its other end (11) in the upper intermediate section to the shaft (7) supporting the main arm (1) and leaning on the same shaft (7).

[0018] On its opposite faces, the ribbed arm (8), has some grooves (12) also opposite to each other and symmetrical in the entire run, along which the ends of the shaft (7) located in the main body (1) run.

[0019] The spring (9) applies a double function to the device, since in the rest state or closure of the improved corkscrew (Figure 1), it pulls the two arms (1) and (8) for them to maintain a parallel arrangement and in a working position it applies a slight but sufficient pressure for it to continue next to the helicoidal thread or puller (3).

[0020] The ribbed arm (8), may have, on at least one of its sides, a sharp or pearly finish (13), serving to un-

seal the bottle capsules or seals. It may also have the main arm or lever (1), with a groove in which a pen-knife may be located for the same purpose.

[0021] The starting point for use is the folded position of the improved corkscrew as shown in Figure 1. Then open the ribbed arm (8) until it adopts the position shown in Figure 2, that is, rotating it about one hundred and eighty degrees, whose position remains stable due to the force applied by the spring (9) tending to join the two components.

[0022] Then, the helicoidal thread or puller (3) should be folded about ninety degrees, such that the spring (6) existing in the main body for such a purpose pushes against it, facilitating its penetration in the stopper (14) of the bottle (15) to be removed.

[0023] Once the puller (3) has been introduced, a slight pressure should be applied on the outside part (16) of the ribbed arm (8), making the spring (9) to aid the latter to suitably locate itself, that is, the convex termination (17) of the foldable arm (8) should be placed on the upper part of the bottle (15) neck.

[0024] After this positioning, the lever or main body (1) will be activated upwards, the latter swinging from the ribbed arm (8), by means of the shaft (7) locked in the lower position and once this main arm (1) is raised, it should be lowered until the shaft (7) slides towards the other upper locking point by means of the guide (12), then repeating the action, that is, raising the main arm (1) until the stopper (14) is totally removed.

[0025] It should be mentioned that the grooves (12) may have as many shaft (7) support points as necessary.

[0026] The ribbed arm (8) may have two extensions in the shape of a hook (18) to extract crown stoppers.

[0027] It is not considered necessary to extend this description for any expert in the matter not to understand the scope of the invention and the advantages derived from it.

[0028] The materials, shape, size and arrangement of the components will be susceptible to variation, provided they do not change the scope of the invention.

[0029] The terms in which this report has been drafted should always be interpreted widely and without limitations.

Claims

1. An improved corkscrew, basically characterised in that it consists of a main body or lever (1), in whose intermediate section, there is a helicoidal thread or puller (3), foldable by means of a fastening shaft (2), and at the end of this main body there is another shaft (7) over which a ribbed arm (8) swings finished with a convex shape (17) serving as a support point to the bottle neck and having in its sides, opposite each other, some grooves (12) along which the extensions of the mentioned shaft (7) slide for such a

purpose.

2. An improved corkscrew, according to claim 1, characterised in that the grooves (12) in the ribbed arm (8) are designed, such that the extensions of the shaft (7) remain locked in two or more positions.

3. An improved corkscrew, according to the previous claims, characterised in that it may have a spring (9) in its internal part fastened on the end part (11) of the main arm or lever (1), and at its other end, approximately in the middle part (10) of the ribbed arm (8), the spring leaning over its intermediate part on the shaft (7) on which two arms swing, causing, according to the open or closed position of the device, a slight pressure so that both positions are locked.

4. An improved corkscrew, according to claim 3, characterised in that the spring (9) in an open position causes the coupling of the arms to each other.

5. An improved corkscrew, according to claim 3, characterised in that the spring (9) in the working position makes the ribbed arm (8) tend to press towards the helicoidal thread or puller (3).

6. An improved corkscrew, according to the previous claim, characterised in that the ribbed arm (8) in its front part may have a rough surface (16) to facilitate the grip of the fingers to activate it.

7. An improved corkscrew, according to previous claims, characterised in that at least one of the sides of the ribbed arm (8) may finish with its edge sufficiently sharp or pearly (13) to unseal capsules or seals.

8. An improved corkscrew, according to previous claims, characterised in that the main arm or lever (1) may have a groove in which the blade of a pen-knife may be inserted for unsealing.

9. An improved corkscrew, according to previous claims, characterised in that the guiding grooves (12) may have one or more notches to couple the shaft (7) extension.

10. An improved corkscrew, according to previous claims, characterised in that the ribbed arm (8) may have two extensions in the shape of a hook (18) to remove crown stoppers.

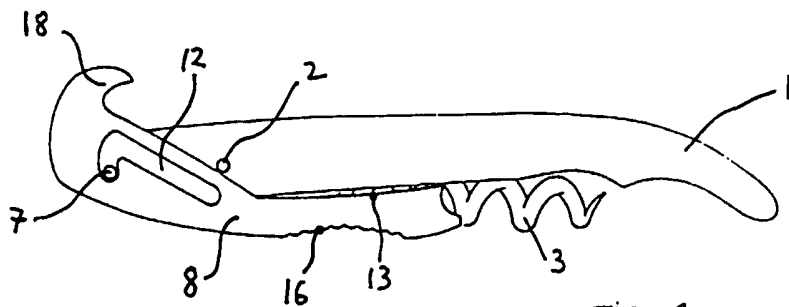


FIG.-1

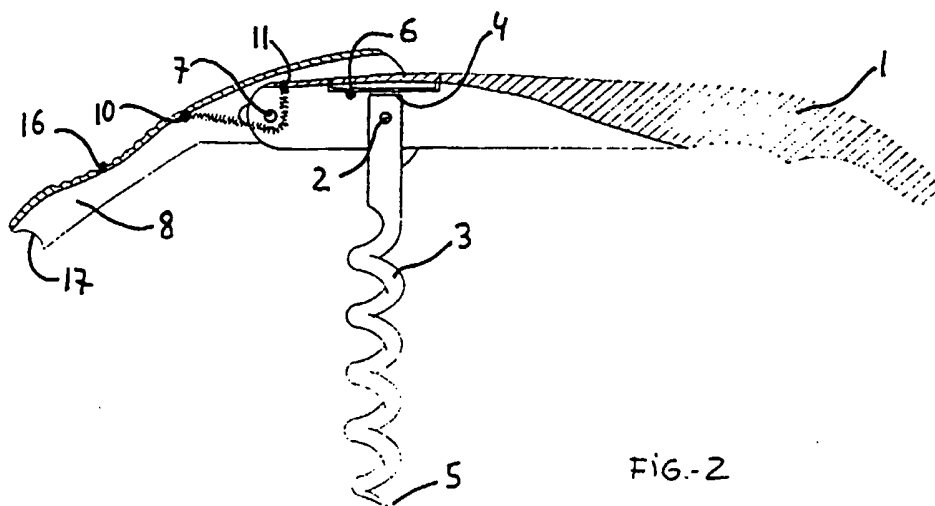


FIG.-2

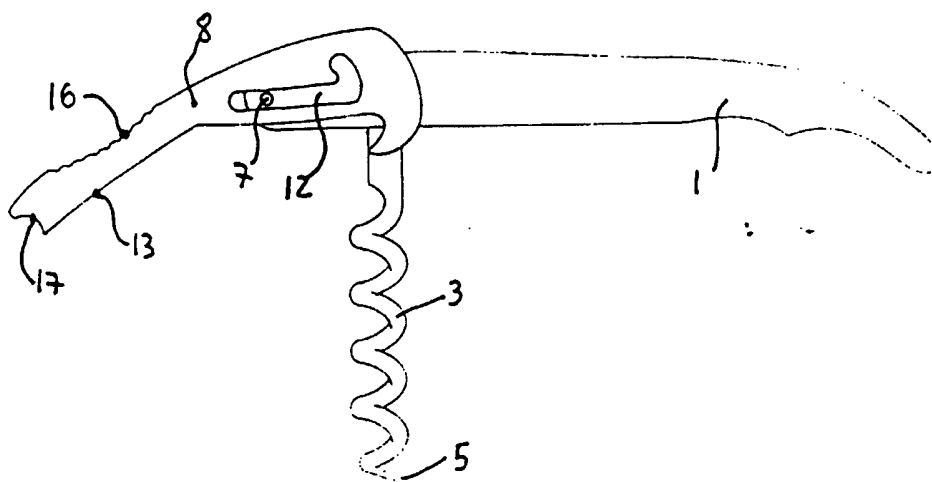
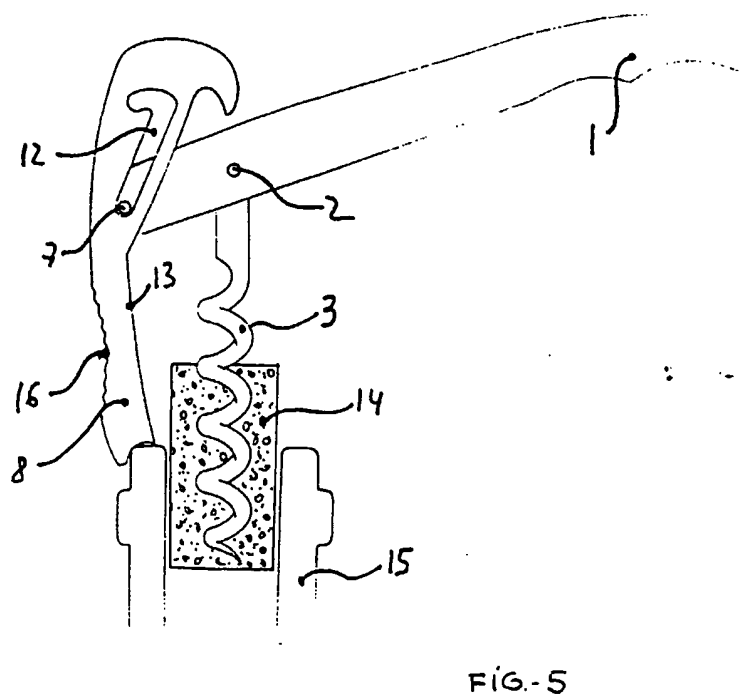
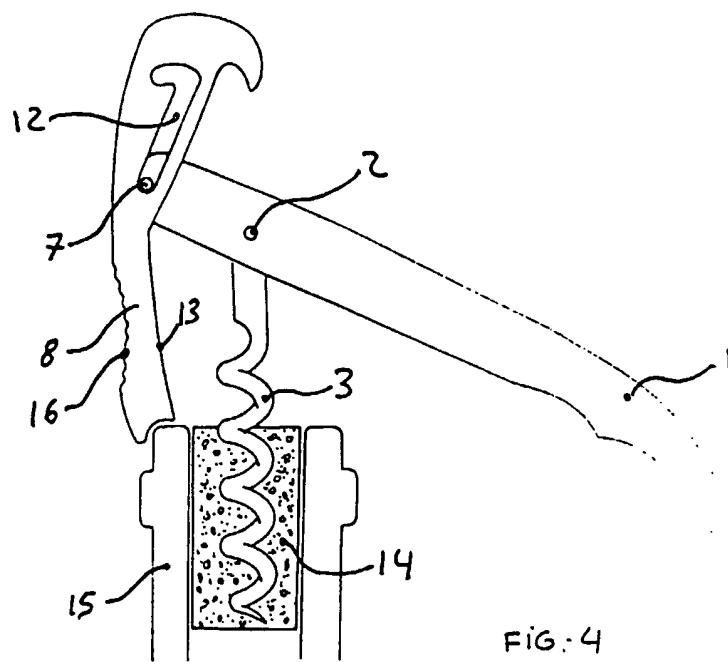


FIG.-3



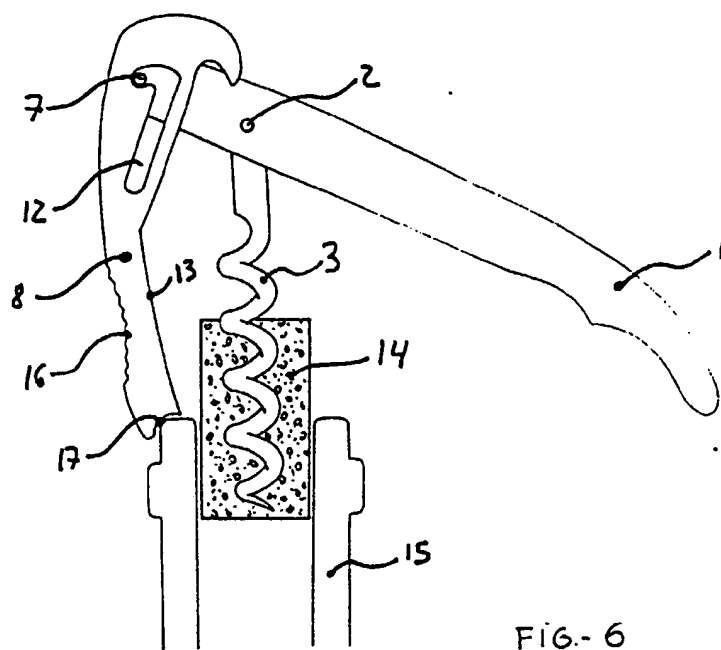


FIG.- 6

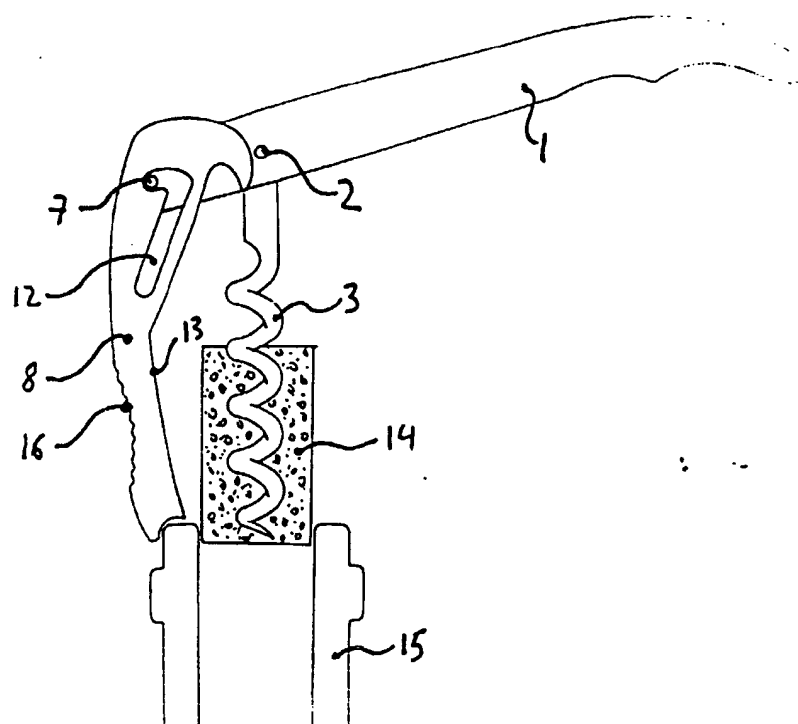


FIG.- 7



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EUROPEAN SEARCH REPORT

Application Number
EP 99 50 0071

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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12 August 1999	Examiner Martínez Navarro, A.
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EPO FORM 1503 03.92 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 99 50 0071

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82